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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/073,137	02/13/2002	Hung-Jung Chen	6233.330	6479

7590 10/03/2003
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EXAMINER

BOYD, JENNIFER A

ART UNIT	PAPER NUMBER
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1771

DATE MAILED: 10/03/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/073,137	CHEN, HUNG-JUNG	
	Examiner	Art Unit	
	Jennifer A Boyd	1771	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 February 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|----------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1 – 3 and 5 are rejected under 35 U.S.C. 102(e) as being anticipated by Boyles (US 6,534,145).

Boyles is directed to a pleated nonwoven product and methods of constructing such product (Title and Abstract).

As to claim 1, Boyles teaches a *flat mat* 10 including a plurality of *pleats* 12 extending between two major *faces* 14 and 16 (column 3, lines 65 – 67 and column 4, lines 1 – 5). See Figure 1. The pleated non-woven product may be formed of many types of natural and synthetic fibers (column 4, lines 5 – 8) and is carded (column 4, lines 14 – 16). The Examiner equates the *flat mat* to Applicant's "resilient laminated textile product", the *major faces* to Applicant's "top and bottom fabric sheets" and the *pleated product* to Applicant's "resilient and lofty fibrous substance". It should be noted that the pleating of the carded non-woven will create the Applicant's "stack of non-woven fiber layers".

As to claim 2, Boyles teaches a product as shown in Figure 1 but further processed as shown in Figures 5 and 6. Boyles teaches a *product* 40 comprised of *backing layer* 42, an intermediate *nonwoven pleated layer* 44 and another *backing layer* 46 (column 4, lines 65 – 68). Boyles teaches that the carded web used for the pleated layer is pleated (column 4, lines 20 – 30),

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the individual pleats are bonded together (column 4, lines 31 – 35) and the intermediate nonwoven pleated layer is split along a *central plane* 48 (column 5, lines 5 – 10).

As to claim 3, Boyles teaches that the *backing layers* 42 and 46, or also known as the two *major faces* 14 and 16 in Figure 1, are preferably extruded thermoplastic material such as polyethylene or polypropylene (column 5, lines 1 – 5). The Examiner considers the extruded thermoplastic material to be a meltblown nonwoven fabric. It should be noted that according to Complete Textile Glossary, a common type of thermoplastic extruded material is a meltblown nonwoven which by definition is a nonwoven formed by **extruding** a molten polymer through a die, attenuating and breaking the resulting filaments with hot, high-velocity air or steam and then collecting the fibers on a moving screen where they bond during cooling (see Melt blowing).

As to claim 5, Boyles teaches that the pleated nonwoven product, or “resilient and lofty fibrous substance”, can comprise 80% by weight of polyester fibers and 20% by weight of polyester fibrous binder (column 6, lines 26 – 33).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Boyles (US 6,534,145).

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Boyles discloses the claimed invention except for that the fibrous substance has a thickness of about 2 – 10 mm. It should be noted that the thickness of the fibrous substance is a result effective variable. For example, as the thickness increases, the composite becomes stiffer and heavier. It would have been obvious to one having ordinary skill in the art at the time the invention was made to create the fibrous substance with a thickness of about 2 – 10 mm, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). In the present invention, one would have been motivated to optimize the thickness of the fibrous substance to create a suitably flexible and durable composite mat.

5. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Boyles (US 6,534,145) in view of Tolliver (US 3,772,137).

Boyles teaches that the pleated nonwoven product, or “resilient and lofty fibrous substance”, can comprise 80% by weight of polyester fibers and 20% by weight of polyester fibrous binder (column 6, lines 26 – 33), however, Boyles fails to teach that the polyester fibers are hollow fibers.

Tolliver is directed to fiber batt for pillows, cushions, comforters, insulated underwear, sleeping bags and other applications where a low density, high bulk filling material is required (column 1, lines 28 – 32). Tolliver teaches a batt having a high filling power and bulk under load comprising hollow polyester filaments (Abstract).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use hollow polyester fibers as suggested by Tolliver in the pleated nonwoven

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product of Boyles motivated by the desire to have a material with high resistive bulk, good support bulk and high insulative protection (column 1, lines 45 – 50).

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Latimer (US 2001/0009711 A1) is directed to a resilient fluid management material for personal care products comprising a corrugated nonwoven web between the body side and garment side layers (page 4, [0060]). The corrugated nonwoven web can be carded and comprise a variety of fibers including bonding fibers (page 5, [0067-0068]). Latimer fails to teach that the corrugated web can be cut in a direction traverse to the direction of the other layers.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer A Boyd whose telephone number is 703-305-7082. The examiner can normally be reached on Monday thru Friday (8:30am - 6:00pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on 703-308-2414. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9306 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

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Jennifer Boyd

Jennifer Boyd

September 25, 2003

Mla Luddock